

REMARKS

Introduction

In accordance with the foregoing, claims 1 and 5 have been amended. No new matter is being presented, and approval and entry are respectfully requested. Applicant respectfully submits that the amendments to claims 1 and 5 are to correct minor errors, and do not narrow the scope of the claims, or raise any new issues.

Claims 1-9 are pending and under consideration.

Entry of Amendment Under 37 C.F.R. §1.116

Applicant requests entry of this Rule 116 Response because:

(a) the amendments of claim 1 and 5 should not entail any further search by the Examiner since no new features are being added and no new issues are being raised; and

(b) the amendments do not significantly alter the scope of these two claims, and place the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures sets forth in Section 714.12 that "any amendment that would place the case either in condition for allowance or in better form for appeal may be entered." Moreover, Section 714.13 sets forth that "the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

Rejections Under 35 U.S.C. §112

At page 2, item 2, of the Office Action, the Examiner rejected claims 1-9 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains. Applicant respectfully traverses the rejection.

The Examiner maintains that Applicant has not provided a specific example of materials

and mixing ratios to obtain an encoder having the claimed properties when subjected to the claimed endurance test.

Regarding the Examiner's contention that examples of materials are not disclosed in the specification, Applicant respectfully submits that the first full paragraph of page 11 explicitly discloses an example of both an elastic material and a magnetic material.

"The elastic material is made of a material containing rubber as a base material, for example, a heat resistant nitrile rubber, acrylic rubber or fluorine containing rubber, mixed with a powder of magnetic material. For the powder of magnetic material, ferrite may be employed."

In addition, on page 14, non-limiting embodiments of the invention are disclosed which utilize heat resistant nitrile rubber, acrylic rubber or fluorine containing rubber. Therefore, Applicant respectfully submits that specific examples of materials are disclosed in the specification.

Further, the mixing ratio is described in the specification (e.g. pg. 4, first paragraph, and pg. 12, first full paragraph) as a ratio that will obtain the disclosed single pitch deviation and magnetic flux density characteristics. Applicant respectfully submits that one of ordinary skill in the art would have known how to modify the combination of the disclosed materials.

In addition, as stated in item 4, on pg. 3 of the Office Action, the Examiner acknowledges that it would have been obvious to one skilled in the art to adjust the mixing ratio of the elastomer material (i.e. base material) and the magnetic particles (i.e. magnetic material). Thus, Applicant respectfully submits that one of ordinary skill in the art would have known how to achieve the appropriate mixing ratio, without undue experimentation, since the specification adequately provides both specific examples of materials, and resulting characteristics of the claimed magnetized encoder.

Additionally, at page 2, item 2, of the Office Action, the Examiner also maintained that it is not entirely clear that Applicant had possession of the claimed device. As stated in MPEP § 2163.02, an Applicant may show possession of an invention by describing sufficient distinguishing identifying characteristics. Thus, since the specification provides specific non-limiting examples of materials and resulting characteristics of the claimed magnetized encoder, Applicant respectfully submits that possession of the device as recited in the claims is adequately shown.

Rejections Under 35 U.S.C. §103

At page 3, item 4, of the Office Action, the Examiner rejected claims 1-9 under 35 U.S.C. §103(a) as being unpatentable over Alff (US 5,622,437) in view of Hajzler (US 5,431,413). Applicant respectfully traverses the rejection.

Claim 1, as previously presented and as currently amended, recites "...a magnetized encoder mounted on one of the inner and outer members which serves as a rotary member and including an elastic member made of a base material mixed with a powder of magnetic material, said elastic member being bonded by vulcanization to the magnetized encoder and having a series of alternating magnetic poles of opposite polarities formed in a direction circumferentially of the rotary member; wherein under a thermal endurance test condition in which the magnetized encoder is subjected to 1,000 thermal cycles each consisting of heating at 120°C for one hour followed by cooling at -40°C for one hour, the magnetized encoder retains the following initial magnetic characteristics when measured at a point 2.0 mm distant from a magnetic sensor: Single pitch deviation: $\pm 2\%$ or less and Magnetic flux density: ± 3 mT or higher."

The Examiner asserts that the magnetized encoder of claim 1 is shown by encoder 7 of Alff, in view of the materials disclosed in Hajzler. Applicant respectfully submits that Hajzler's broad reference to an elastomer loaded with magnetic particles (col. 2, lines 6-9) fails to teach or disclose the specifically claimed features. In particular, not every elastomer will satisfy the claimed limitations. For example, as stated in the non-limiting embodiment disclosed on pg. 13, lines 23-27 of the present Application, when standard nitrile rubber is employed as the base material, fine cracking occurs and the embodiment fails to satisfy the initial magnetic characteristics. On the other hand, when an appropriate material, such as heat resistant nitrile rubber, is employed, no cracking occurs (nonlimiting embodiment disclosed on pg. 14, lines 3-5). Thus, Applicant respectfully submits that Hajzler fails to teach or suggest the appropriate materials to make the invention.

Further, Applicant respectfully submits that not only does Alff fail to disclose the claimed magnetic characteristics (single pitch deviation $\pm 2\%$ or less and magnetic flux density ± 3 mT or higher), Alff also fails to teach or suggest the claimed endurance test. It appears that the Examiner assumes that Alff is subjected to the claimed endurance test, even though no such test is disclosed in the reference. Additionally, Alff fails to suggest that sensor 8 is positioned at a point 2.0 mm from encoder 7.

If the Examiner wishes to persist in the above rejection, we request that the Examiner particularly point out which portion of Alff discloses the claimed endurance test, and which portion of Alff discloses that sensor 8 is positioned at a point 2.0 mm from encoder 7.

Applicant respectfully submits that claim 1 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons.

Claim 6 recites "...wherein the elastic member is made of a heat resistant nitrile rubber."

At page 3, item 4, of the Office Action, the Examiner acknowledges that Alff does not disclose a heat resistant nitrile rubber, but maintains that it is a matter of obvious design choice to form Alff's elastomer material of "nitrile". But claim 6 discloses that the elastic member is made of a "heat resistant nitrile rubber", not just "nitrile." As stated in the specification on page 14, when heat resistant nitrile rubber is employed as the base material, no cracking occurs under the thermal endurance test condition. Therefore, we believe that the Examiner's reliance on the "obvious design choice" rationale is improper.

Further, claim 8 recites "...wherein an outer end of said cylindrical portion of said second sealing plate has a wall thickness smaller than a remaining part of said cylindrical portion of said second sealing plate, said outer end being bent radially inward."

Applicant respectfully submits that Alff fails to teach or disclose that "...an outer end of said cylindrical portion of said second sealing plate has a wall thickness smaller than a remaining part of said cylindrical portion of said second sealing plate..." Additionally, Applicant respectfully submits that Alff fails to teach or disclose that the second outer end is "...bent radially inward."

If the Examiner wishes to persist in the above rejection, we request that the Examiner particularly point out which portion of Alff discloses such features.

Thus, applicant respectfully submits that, claims 2-9, which depend from independent claim 1, should be allowable for at least the same reasons as claim 1, as well as the additional features recited therein.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

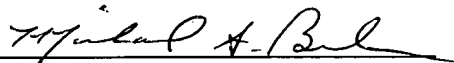
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Respectfully submitted,

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